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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,704	08/05/2003	Michael S. John	29888/38379A	7578
4743	7590	07/17/2007		
MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606			EXAMINER PELHAM, JOSEPH MOORE	
			ART UNIT 3742	PAPER NUMBER
			MAIL DATE 07/17/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/634,704

Applicant(s)

JOHN ET AL.

Examiner

Joseph M. Pelham

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16, 18, 21-37, 39-55, 57-63, 66-70 and 80-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-24, 27-33, 35-41, 44-62, 69 and 70 is/are allowed.
- 6) ☒ Claim(s) 25, 26, 34, 42, 43, 63, 66-68 and 80-84 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br/>Paper No(s)/Mail Date _____.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/>Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
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The Examiner acknowledges Applicant's submission of the amendment filed 4/19/07. Claims 1-16, 18, 21-37, 39-55, 57-63, 66-70, and 80-84 are now pending.

***Claim Rejections - 35 USC § 112***

Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim dependency has been deleted from the claim, which evidently should depend from claim 33.

***Claim Rejections - 35 USC § 103***

Claims 25, 26, 42, 43, and 80-84 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. 5916174 (US'174) or US Pat. 5023783 (US'783) in view of U.S. Pat. 4622440 (US'440) and US Pat. 6115478 (US'478).

Referring to col. 1, lines 40-54 (1:40-54), 2:31-55, 5:46-6:18, and 10:3-4, US'174 discloses selecting a digital signal transduced to create a steady-state auditory test stimulus ("long duration pure tones" (5:61, 8:12-34), sensing a potential) while presenting the signal, and analysis of the evoked potentials to detect a response. Since the lack of a response indicates that the test subject did not hear the stimulus, changing the signal so as to render meaningful test results is inherent in US'174.

The examiner notes that claims 25, 42, and 43 all recite "at least one component," hence a test signal of *just one* component meets the claim limitations.

US'783 also discloses selection from a plurality of carrier and modulation frequencies and analyzing the sensed potentials for an "expected steady-state response," which are just the phase-locked steady-state potentials discussed by US'783 (2:11-48).

Regarding claims 81-84, the "relative size" of a response, whether it is "statistically present at a selected probability level," the "responses... chosen based on an unaided... profile of the subject," and "adjusting the gain... for a frequency region which is adjacent to" the region in which no response was detected, are all either inherent or immediately obvious over US'174 or US'783. A threshold "signal to noise" ratio serves conventionally as the recited "probability level," the chosen responses are routinely selected in accord with the known hearing loss profile of a subject, and an enhanced gain at frequencies adjacent the 'no-response' regions is a conventional method to compensate for such deficiencies..

The claims differ substantively from US'174 or US'783 only in reciting the programming of a hearing aid for a specified number of frequency bands, by means of the recited acoustic testing steps (audiometric results), where the gain for each frequency band is a function of the detection of a subject response, and "adjusting the hearing aid until one or more auditory... response" is detected, that is, programming the hearing aid while the user is wearing it.

US'440 discloses, at 4:4-26, the programming of a hearing aid for a specified number of frequency bands, by means of audiometric results, where the gain for each

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frequency band is a function of the detection of a subject response. It would have been obvious to program a hearing aid with the test results of US'174 or US'783 since such is in fact the object of such a test, where a hearing aid is medically indicated, and US'440 discloses such integration of programming and testing functions to have been well known.

US'478, at 3:62-65, discloses programming the hearing aid while the user is wearing it. It would have been obvious to consolidate the testing and programming steps, after the manner of US'478, to both ensure the correct adjustment of the hearing aid, and to shorten the time required to accommodate a patient.

Claims 63 and 66-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over US'174 or US'783 in view of US Pat. 3970785.

As discussed above, US'174 discloses selecting a digital signal transduced to create a steady-state auditory test stimulus ("long duration pure tones" (5:61, 8:12-34), and analysis of the evoked potentials to detect a response. Since the lack of a response indicates that the test subject did not hear the stimulus, changing the signal so as to render meaningful test results is inherent in US'174. Further, "on" and "off" periods for the stimuli, as recited in claim 67, are inherent in the testing regime of US'174, since the stimulus is both turned on and turned off.

US'783 also discloses selection from a plurality of carrier and modulation frequencies and analyzing the sensed potentials for an "expected steady-state response," which are just the phase-locked steady-state potentials discussed by US'783 (2:11-48).

Regarding claim 63, the limitation of "pausing... and presenting an alternate acoustic stimulus" during the "pause," after reaching a maximum stimulus intensity, is wholly equivalent to simply changing the stimulus frequency when a test subject has no response to a given frequency in the practicable range of intensities, which is routine procedure in such tests.

Regarding claims 66 and 68, automatically changing the frequency of testing stimuli, and a one half octave step between stimulus frequencies, do not patentably distinguish the claimed invention from the prior art. The frequency is conventionally changed in the course of a test, and merely automating the change is obvious since the range of frequencies is known and repeated from test to test. A one half octave frequency change is a conventional value and also determined strictly by the desired 'resolution' of a test, hence it is obvious.

The claims differ substantively from US'174 or US'783 only in reciting iteratively changing the stimulus intensity level to determine a minimal level for a detected response, and either increasing or decreasing signal intensity by steps. However, US'785 discloses such iterative variation of stimulus intensity level to determine a threshold detection level, inherently pausing between steps to allow a recovery period. It would have been obvious to thus carry out a hearing test to efficiently and precisely determined the threshold levels for each given frequency. Moreover, recording the test

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results in a table is either inherent in US'785 or immediately obvious, since it is the ordinary way to depict the results of 2-parameter tests; and automatic control is conventional and hence obvious for standardized testing regimes. Further, "recording criteria" such as a "time limit" or preexisting subject data would have been obvious since a time limit is inevitable and preexisting subject data is universally considered in medical testing.

**Note:** Applicant is urged to review the prior art cited but not applied when replying to this Office action.

### ***Allowable Subject Matter***

Claims 1-15, 16, 18-24, 27-33, 35-41, 44-62, 69, and 70 are allowed.

Claim 34 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments filed 4/19/07 have been fully considered but they are not persuasive. Applicant states, with respect to claims 25-26 and 80-84, that "multiple stimuli are tested simultaneously." However, 25.(b) recites "at least one component," which limitation is met by a stimulus with a single component.

Applicant's arguments with respect to claim 43 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to claims 63 have been fully considered but they are not persuasive. As noted above, "pausing... and presenting an alternate acoustic stimulus" during the "pause," after reaching a maximum stimulus intensity, is not distinct, as recited, from simply changing the stimulus frequency when a test subject has no response to a given frequency, and the frequency is changed after a brief pause, which is routine procedure in such tests.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph M. Pelham whose telephone number is 571-272-4786. The examiner can normally be reached on M-F 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/5/07

A handwritten signature in black ink, appearing to read "Pelham", with a stylized, cursive script.